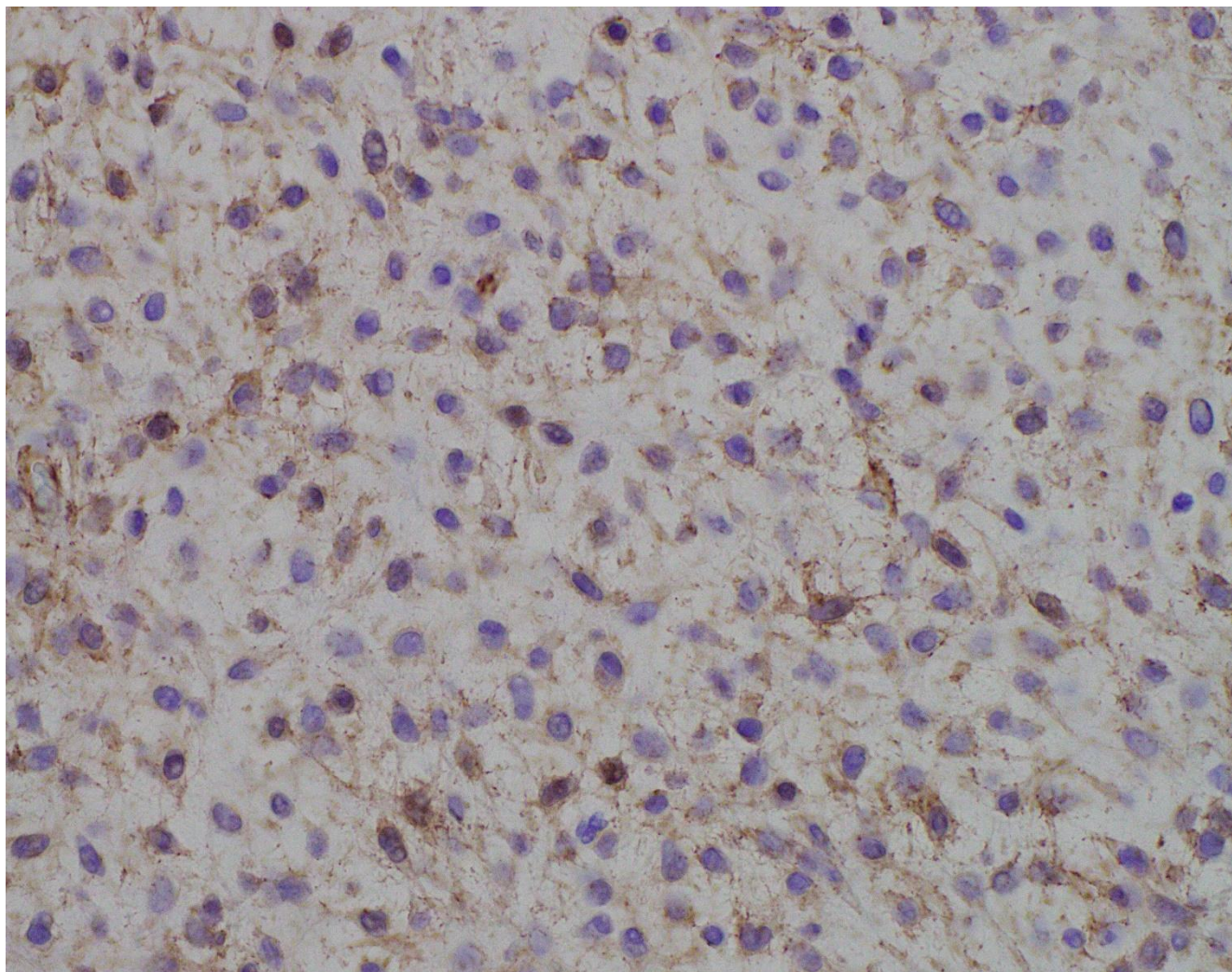


## Supplementary material

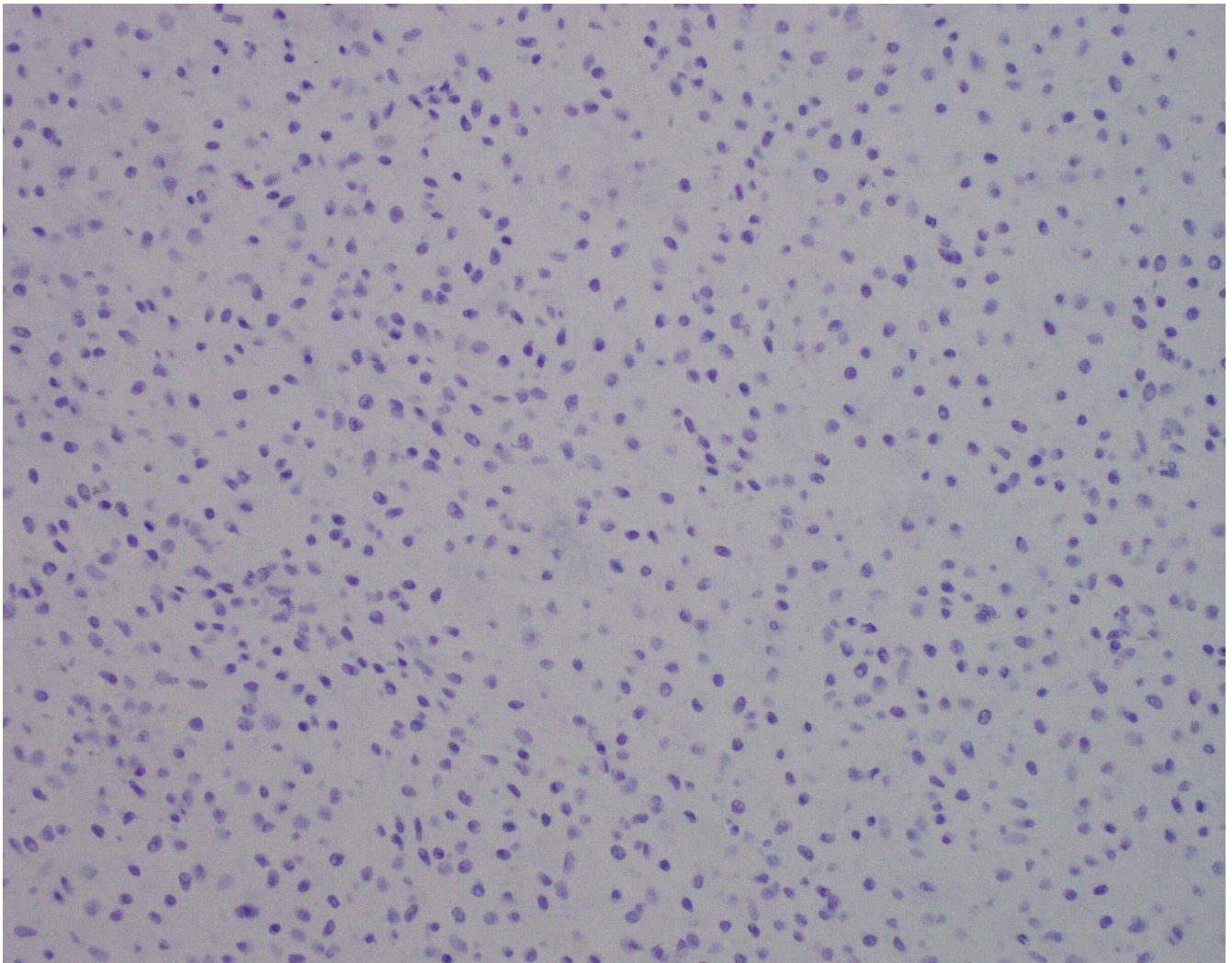
- **Supplementary Figure 1: Beta-catenin stain**
- **Supplementary Figure 2: p40 stain**
- **Supplementary Figure 3: pan-keratin stain**
- **Supplementary Figure 4: SMA stain**
- **Supplementary Figure 5: t-SNE Bethesda classifier v31**
- **Supplementary Figure 6: UMAP Bethesda classifier**

### Supplementary Figure 1: Beta-catenin stain

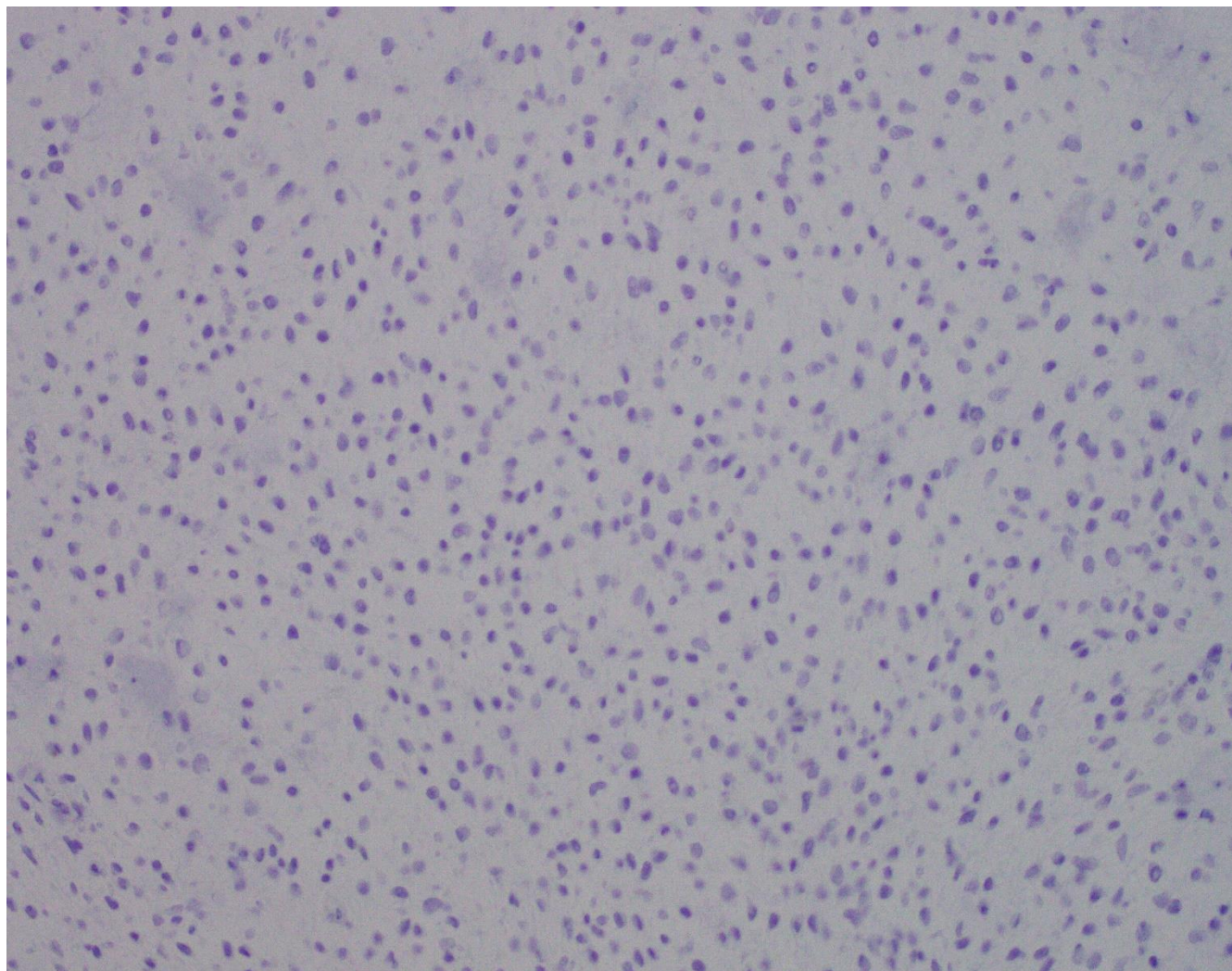




## Supplementary Figure 2: p40 stain

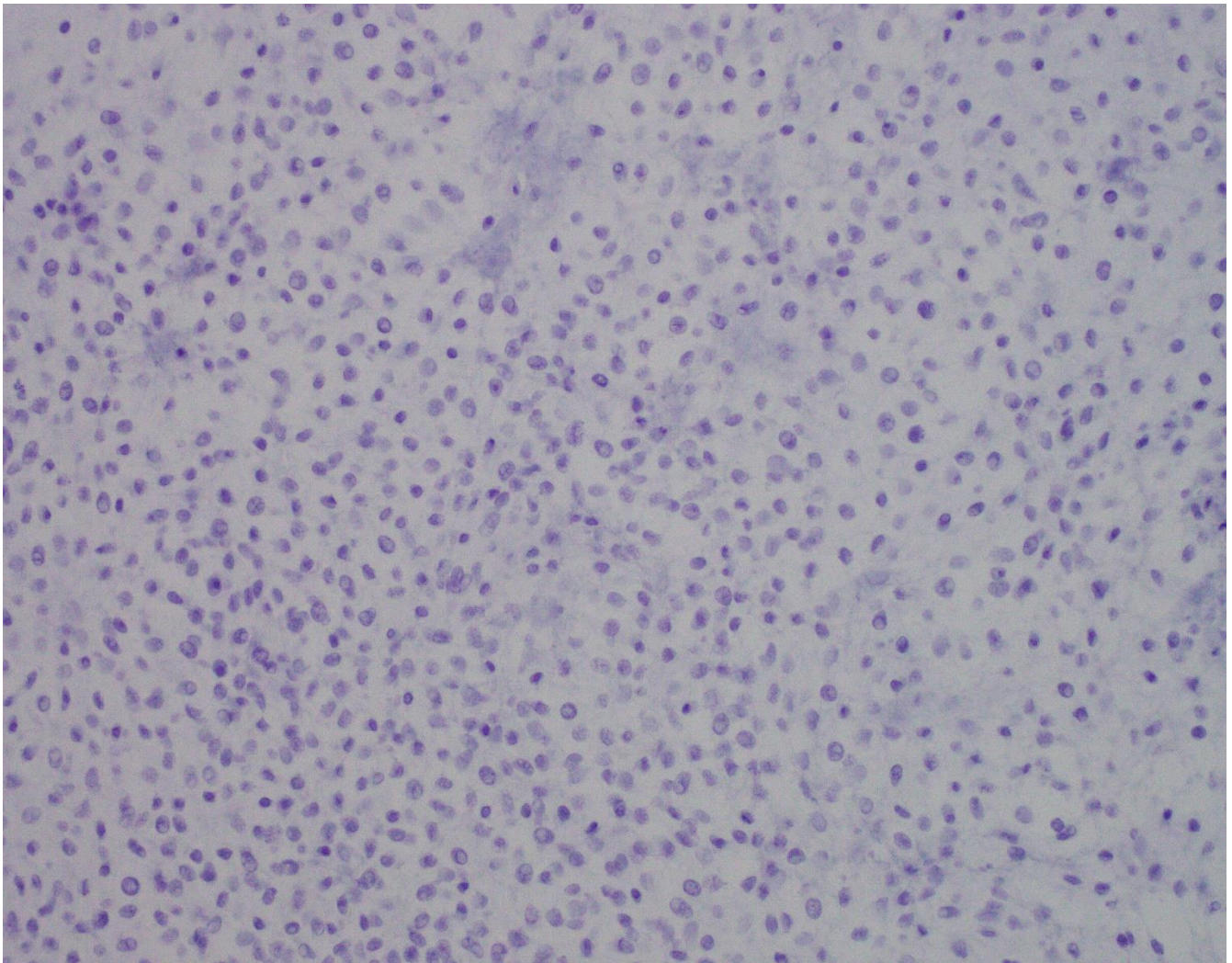


### Supplementary Figure 3: pan-keratin stain

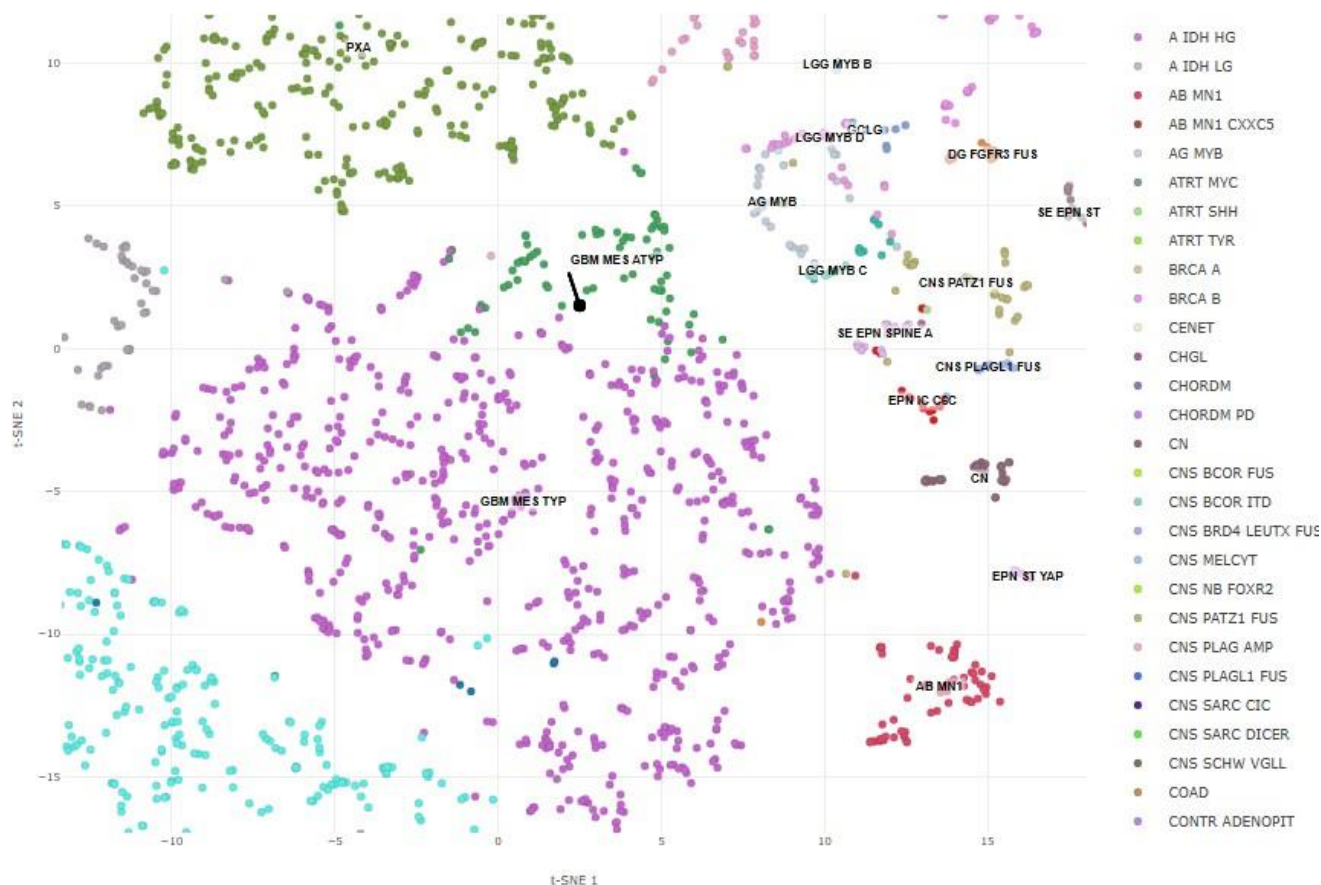




## Supplementary Figure 4: SMA stain



## Supplementary Figure 5: t-SNE Bethesda classifier v3



## Supplementary Figure 6: UMAP Bethesda classifier

